

PAGE: 1  
06/27/2002

VERIFICATION SUMMARY REPORT  
PATENT APPLICATION

DATE:  
TIME:

08:21:55

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#### GENERAL INFORMATION SECTION

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3,<110> KATSUURA, MIEKO  
4, KIMURA, MICHIO  
6,<120> BONE MORPHOGENETIC PROTEIN ANTAGONIST BASED ON THE  
7, MATURE PROTEIN  
9,<130> 447.001  
11,<140> US 09/806,368  
12,<141> 2001-03-28  
14,<150> PCT/IB99/01621  
15,<151> 1999-10-04  
17,<150> JP 10/288,103  
18,<151> 1998-10-09  
20,<160> 7  
22,<170> PatentIn version 3.1

#### ERRORED LINES SECTION

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#### STATISTICS SUMMARY

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Application Serial Number: US 09/806,368  
Alpha or Numeric: Numeric  
Application Class:  
Application File Date: 2001-03-28  
Art Unit:  
Software Application: PatentIN3.1  
Total Number of Sequences: 7  
Total Nucleotides: 0  
Total Amino Acids: 845  
Number of Errors: 0  
Number of Warnings: 0  
Number of Corrections: 0

## SEQUENCE LISTING

<110> KATSUURA, MIEKO  
KIMURA, MICHIO

<120> BONE MORPHOGENETIC PROTEIN ANTAGONIST BASED ON THE  
MATURE PROTEIN

<130> 447.001

<140> US 09/806,368

<141> 2001-03-28

<150> PCT/IB99/01621

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<170> PatentIn version 3.1

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<212> PRT

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<223> Mature MP52

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<310> WO9633215

<311> 1996-04-19

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Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp  
20 25 30

Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu  
35 40 45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His  
50 55 60

Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro  
65 70 75 80

Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe  
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Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val  
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Val Glu Ser Cys Gly Cys Arg  
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His Pro Leu Tyr Val Asp Phe Ser Asp Val Gly Trp Asn Asp Trp Ile  
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Val Ala Pro Pro Gly Tyr His Ala Phe Tyr Cys His Gly Glu Cys Pro  
35 40 45

Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala Ile Val Gln  
50 55 60

Thr Leu Val Asn Ser Val Asn Ser Lys Ile Pro Lys Ala Cys Cys Val  
65 70 75 80

Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp Glu Asn Glu  
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Lys Val Val Leu Lys Asn Tyr Gln Asp Met Val Val Glu Gly Cys Gly  
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 <301> Wozney, JM et al.  
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 <303> SCIENCE  
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 <305> 4885  
 <306> 1528-1534  
 <307> 1988-12-16  
 <308> GENBANK/M22490  
 <309> 1994-10-31

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Ser Pro Lys His His Ser Gln Arg Ala Arg Lys Lys Asn Lys Asn Cys  
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Arg Arg His Ser Leu Tyr Val Asp Phe Ser Asp Val Gly Trp Asn Asp  
 20 25 30

Trp Ile Val Ala Pro Pro Gly Tyr Gln Ala Phe Tyr Cys His Gly Asp  
 35 40 45

Cys Pro Phe Pro Leu Ala Asp His Leu Asn Ser Thr Asn His Ala Ile  
 50 55 60

Val Gly Thr Leu Val Asn Ser Val Asn Ser Ser Ile Pro Lys Ala Cys  
 65 70 75 80

Cys Val Pro Thr Glu Leu Ser Ala Ile Ser Met Leu Tyr Leu Asp Glu  
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<301> OZKAYNAK, E. et al.
<302> OP-1 cDNA encodes an osteogenic protein in the TGF-beta.
<303> EMBO J.
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<306> 2085-2093
<307> 1990-07-01
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Ser Thr Gly Ser Lys Gln Arg Ser Gln Asn Arg Ser Lys Thr Pro Lys
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20          25          30

Asp Gln Arg Gln Ala Cys Lys Lys His Glu Leu Tyr Val Ser Phe Arg
35          40          45

Asp Leu Gly Trp Gln Asp Trp Ile Ile Ala Pro Glu Gly Tyr Ala Ala
50          55          60

Tyr Tyr Cys Glu Gly Glu Cys Ala Phe Pro Leu Asn Ser Tyr Met Asn
65          70          75          80

Ala Thr Asn His Ala Ile Val Gln Thr Leu Val His Phe Ile Asn Pro
85          90          95

Glu Thr Val Pro Lys Pro Cys Cys Ala Pro Thr Gln Leu Asn Ala Ile
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Arg Asn Met Val Val Arg Ala Cys Gly Cys His  
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Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala  
 1 5 10 15

Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp  
 20 25 30

Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu  
 35 40 45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His  
 50 55 60

Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro  
 65 70 75 80

Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe  
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Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val  
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Val Glu Ser Cys Gly Cys Arg  
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&lt;221&gt; CHAIN

&lt;222&gt; (1)..(119)

&lt;223&gt; Mature MP52 protein. Note : 30th and/or 71st and/or 74th and/or 111th Met are modified to s-carboxymethyl Met.

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Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala  
 1 5 10 15

Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp  
 20 25 30

Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu  
 35 40 45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His  
 50 55 60

Ala Val Ile Gln Thr Leu Met Asn Ser Met Asn Pro Glu Ser Thr Pro  
 65 70 75 80

Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe  
 85 90 95

Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val  
 100 105 110

Val Glu Ser Cys Gly Cys Arg  
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&lt;221&gt; CHAIN

&lt;222&gt; (1)..(119)

&lt;223&gt; Mature MP52 protein. Note : 32nd and 35th Trp are modified to allylsulphenyl Trp.

&lt;400&gt; 7

Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala  
 1 5 10 15

Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp

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Asp	Asp	Trp	Ile	Ile	Ala	Pro	Leu	Glu	Tyr	Glu	Ala	Phe	His	Cys	Glu
		35					40					45			
Gly	Leu	Cys	Glu	Phe	Pro	Leu	Arg	Ser	His	Leu	Glu	Pro	Thr	Asn	His
	50					55					60				
Ala	Val	Ile	Gln	Thr	Leu	Met	Asn	Ser	Met	Asp	Pro	Glu	Ser	Thr	Pro
65					70					75					80
Pro	Thr	Cys	Cys	Val	Pro	Thr	Arg	Leu	Ser	Pro	Ile	Ser	Ile	Leu	Phe
				85					90					95	
Ile	Asp	Ser	Ala	Asn	Asn	Val	Val	Tyr	Lys	Gln	Tyr	Glu	Asp	Met	Val
			100					105					110		
Val	Glu	Ser	Cys	Gly	Cys	Arg									
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